



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,814	06/27/2001	Christopher Latham	45542/DBP/T183	4136
23363	7590	09/07/2004	EXAMINER	
CHRISTIE, PARKER & HALE, LLP			LEE, BENJAMIN C	
PO BOX 7068			ART UNIT	
PASADENA, CA 91109-7068			PAPER NUMBER	
			2632	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,814

Applicant(s)

LATHAM ET AL.

Examiner

Benjamin C. Lee

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/14/03, 6/27/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims Status

1. Claims 1-13 are pending.

Claim Rejections - 35 USC § 112

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) Claim 13 should have depended on claim 12 (not claim 8) in order to provide antecedent basis for "X" on line 2.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1- 4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lohoff (US pat. #4,222,035).

1) In considering claims 1-4 and 7:

Lohoff discloses:

a) claim 1: the claimed controller (11, 12 of Fig. 1) for controlling a device (any of 13-18 and 20-25 of Fig. 1) driven by an AC supply (27 of Fig. 1), the controller being adapted to

intermittently interrupt the AC supply such to encode a control signal therein (waveform 29 in Figs. 1 & 4; col. 3, lines 12-15);

b) claim 2: the controller connectable to an AC mains to thereby receive the AC supply (9 and 27 of Fig. 1);

c) claim 3: the controller is adapted to begin and end interruptions of the AC supply when the supply potential is substantially zero (wave form 29 shown in Figs. 1 & 4);

d) claim 4: the controller is such as to cause interruptions of one AC cycle in duration (wave form 29 shown in Figs. 1 & 4);

e) claim 7: AC supply line (30 of Fig. 1) for conducting the encoded AC supply from the controller to the device and a detector (any of 13-18) for receiving the AC supply, decoding the control signal and controlling the device in dependence thereupon (Fig. 4);

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohoff in view of Sturzl et al. (US pat. #5,251,191).

1) In considering claim 5, Lohoff met all of the claimed subject matter as in claim 1, except:

--the claimed: wherein the controller is such as to interrupt the AC every X cycles, where X is adjustable and different values of X represent different control signals.

While Lohoff teaches encoding the different control signals by the number of interruptions in a fixed number of transmission cycles (col. 5, line 55 to col. 6, line 4; waveform 20 of Fig. 1 and col. 1, lines 56-60; col. 5, lines 28-38 and 55-58), Sturzl et al. teaches the known method of encoding information on a carrier waveform using the periodicity of the modulation on the carrier waveform (col. 1, lines 42-48).

In view of the teachings by Lohoff and Sturzl et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the control signals encoding in a system such as taught by Lohoff by interrupting the AC every X cycles, so that the resulting periodicities correspond to different encoded information as taught by Sturzl et al., in order to improve noise and error immunity since periodicity is a repeating pattern and even if a portion of the encoding is lost the encoded information can still be decoded from the remaining portion, as opposed to the method used by Lohoff which can result in erroneous detection if one or more of the interruptions are not reliably detected.

2) In considering claim 6, Lohoff and Sturzl et al. render all of the claimed subject matter obvious as in claim 5, including:

--the claimed said controller is adapted to receive control input and to adjust X to correspondingly control the device (output 28 from controller 12 to transmitter 11 in Fig. 1 of Lohoff corresponding to the particular remote device desired for control).

7. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohoff in view of Bushell et al. (US pat. #6,011,493).

1) In considering claim 8-9, Lohoff met all of the claimed subject matter as in claim 1, while:

-- Bushell et al. teaches the known use of the AC supply onboard an aircraft as the conduit of choice for imposing control signals to control an external aircraft light having a visible light emitter and an IR emitter both controlled by a controller (Abstract and Figs. 1 & 7).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a control system/method of Lohoff for controlling remote devices by encoding control signals over the AC supply that drives the devices in a way that is immune to voltage spikes and transients (col. 1, lines 26-32 & 63-65) can be used in various application environments including external aircraft visible and IR emitters control such as taught by Bushell et al. without unexpected results.

2) In considering claims 10-11, Lohoff and Wilhem et al. render all of the claimed subject matter obvious as in claim 8, plus the consideration of claims 3-4, respectively.

8. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohoff in view of Bushell et al. and Sturzl et al.

1) In considering claim 12-13, Lohoff and Bushell et al. render all of the claimed subject matter obvious as in claim 8, plus the consideration of claims 5-6, respectively, further in view of Sturzl et al.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2632

1) Wilhem et al., US pat. #6,758,586

--A similar aircraft pilot switch control of visual and IR lights (col. 9, lines 60-65).

2) Lang et al., US pat. #3,885,226

--A similar aircraft beacon and navigation light assembly controlled by power line encoded signals.

3) US pat. Nos. 5479162, 4933668

--Similar power-line communication onboard an aircraft.

4) US pat. Nos. 4329678, 5581229, 5614811, 3946243, 5691691, 5005187, 6115429, 6278357, 4131882, 5920253, 4378533, 4348582, 5264823, 4835517, 6784790, 447232, 4106007, 6437686

--Similar power-line communication systems/methods.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963.

The examiner can normally be reached on Mon -Fri 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2632

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Benjamin C. Lee
Primary Examiner
Art Unit 2632

B.L.